



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,654	07/07/2005	Joachim Kupe	DP-309749	3500
7590	08/04/2009		EXAMINER	
Delphi Technologies Legal Staff PO Box 5052 Mail Code: 480-410-202 Troy, MI 48007-5052			NGUYEN, TU MINH	
			ART UNIT	PAPER NUMBER
			3748	
			MAIL DATE	DELIVERY MODE
			08/04/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/541,654	KUPE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	TU M. NGUYEN	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 17 April 2009.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-48 is/are pending in the application.  
 4a) Of the above claim(s) 27 and 41-48 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-26 and 28-40 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 07 July 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 20090213.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

1. An Applicant's Response to an Election/Restriction Requirement filed on April 17, 2009 has been entered. Overall, claims 1-48 are pending in this application.

***Election/Restriction***

2. Applicant's election with traverse of the species of Figure 6 in the Response filed on April 17, 2009 is acknowledged. Claims 1-26 and 28-40 are readable thereon will be examined in its full merit. Claims 27 and 41-48 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The traversal is on the ground(s) that the applicant's claims to the species identified by the examiner are not in such a mutually exclusive relationship. This is not found persuasive because the claimed species are clearly not related in terms of their structures and/or modes of operation. For example, in the species of Figure 7, an off-line membrane (70) is utilized to limit oxygen flow into a reformer (82) so that the reformer is adapted to produce ammonia more effectively. Ammonia is a reductant that is more suitable for an SCR catalyst such as the one (20) in the pending application. Because of this structure, an NOx adsorber is not needed in the species of Figure 7. On the other hand, in the species of Figure 1, there is no off-line membrane and the reformer (24) is adapted to generate a reductant comprising primarily hydrogen and CO which are more suitable for an NOx adsorber. The clear unrelated features among the species of claimed invention would require a separate search area for each species and thus, impose a burden in search and examination.

The requirement is still deemed proper and is therefore made FINAL.

***Specification***

3. The abstract of the disclosure is objected to because of the use of open ended phrase “comprising” on line 1. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-23 and 34-36 are rejected under 35 U.S.C. 112, second paragraph, because the phrase “capable of” in independent claims 1 and 34 renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1-26 and 28-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Duvinage et al. (PTC Publication WO 02/100519) (see U.S. Patent 7,254,939) for the English equivalence).**

As shown in Figures 2 and 4, Duvinage et al. disclose a NOx abatement system and a method of NOx abatement, the system comprising:

- a first NOx adsorber (5) disposed in-line, being disposed downstream of and in fluid communication with an engine (12);
- a selective catalytic reduction catalyst (4) disposed in-line, downstream of and in direct fluid communication with the first NOx adsorber (5), wherein the selective catalytic reduction catalyst (4) is adapted for storing ammonia;
- an off-line reformer (14) disposed in selective communication with and upstream of the first NOx adsorber (5) and the selective catalytic reduction catalyst (4), wherein the reformer (14) is adapted for producing a reformate (9) comprising primarily hydrogen and carbon monoxide; and
- an off-line reactor (15) in fluid communication with and downstream of the reformer (14), wherein the reactor (15) comprises an ammonia forming catalyst.

***Prior Art***

8. The IDS (PTO-1449) filed on February 13, 2009 has been considered. An initialized copy is attached hereto.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of three patents: Khair et al. (U.S. Patent 6,293,096), Twigg et al. (U.S. Patent 6,696,031), and Phillips et al. (U.S. Patent 6,877,313) further disclose a state of the art.

***Communication***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tu M. Nguyen/

TMN

Tu M. Nguyen

August 3, 2009

Primary Examiner

Art Unit 3748